

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: March 4, 1996  
Date Received: February 29, 1996  
Project: Metro Self Monitor, PO #M52469  
Date Samples Extracted: March 1, 1996  
Date Extracts Analyzed: March 1, 1996

**RESULTS FROM THE ANALYSIS OF THE PROCESS WATER SAMPLE  
FOR CHROMIUM, COPPER, NICKEL, AND ZINC**

**USING METHOD 6010**

**Samples Processed Using Method 3005**

Results Reported as mg/L (ppm)

Sample ID	<u>Chromium</u>	<u>Copper</u>	<u>Nickel</u>	<u>Zinc</u>
M52469	0.29	0.30	0.19	<0.05
Method Blank	<0.05	<0.05	<0.05	<0.05

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**QUALITY ASSURANCE RESULTS  
 FOR CHROMIUM, COPPER, NICKEL, AND ZINC  
 BY INDUCTIVELY COUPLED PLASMA (ICP)  
 (METHOD 6010)**

**Samples Processed Using Method 3005**

Laboratory Code: 66871 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Chromium	mg/L (ppm)	0.29	0.36	22 b	0-20
Copper	mg/L (ppm)	0.30	0.35	15 b	0-20
Nickel	mg/L (ppm)	0.19	0.24	23 b	0-20
Zinc	mg/L (ppm)	<0.05	<0.05	nm	0-20

Laboratory Code: 66871 (Matrix Spike)

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery		Acceptance Criteria	Relative Percent Difference
				MS	MSD		
Chromium	mg/L (ppm)	5	0.29	97	96	80-120	1
Copper	mg/L (ppm)	5	0.30	98	96	80-120	2
Nickel	mg/L (ppm)	10	0.19	97	97	80-120	0
Zinc	mg/L (ppm)	5	<0.05	98	99	80-120	1

Laboratory Code: Spike Blank

Analyte:	Reporting Units	Spike Level	% Recovery		Acceptance Criteria	Relative Percent Difference
			MS	MSD		
Chromium	mg/L (ppm)	5	98	100	80-120	2
Copper	mg/L (ppm)	5	100	101	80-120	1
Nickel	mg/L (ppm)	10	99	101	80-120	2
Zinc	mg/L (ppm)	5	100	101	80-120	1

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

b - Sample variation is attributed to the variability of fine particles present in the sample.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman  
James E. Bruya, Ph.D.  
(206) 285-8282

3012 16th Avenue West  
Seattle, WA 98119-2029  
FAX: (206) 283-5044

March 4, 1996

Gerald Thompson, Project Manager  
Alaskan Copper Works  
628 South Hanford  
Seattle, WA 98134

Dear Mr. Thompson:

Enclosed are the results from the testing of material submitted on February 29, 1996 from your Metro Self Monitor, PO #M52469 project.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Kurt Johnson  
Chemist

keh  
Enclosures  
FAX: 382-7335  
ACU0304R.DOC

KNS AI  
02.29.96  
1:30

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SAMPLERS (signature)

Sample # 668687N

Relinquished by: [Signature]  
Received by: [Signature]  
Relinquished by: [Signature]

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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March 4, 1996

**INVOICE # 96ACU0304-1  
DUPLICATE COPY**

Accounts Payable  
Alaskan Copper Works  
628 South Hanford  
Seattle, WA 98134

RE: Project Metro Self Monitor, PO #M52469: Results of testing requested by  
Gerald Thompson, Project Manager for material submitted on February 29,  
1996.

1 process water sample analyzed for  
Chromium, Copper, Nickel, and Zinc  
using Method 6010 @ \$65 per sample

\$ 65.00

Amount Due .....

\$ 65.00